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Newspaper Markets and Municipal Politics: how Audience and Congruence Increase Turnout in Local Elections

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Key words:

electoral turnout, newspaper markets, congruence, local democracy, Switzerland

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Newspaper Markets and Municipal Politics: how Audience and Congruence Increase Turnout in Local Elections

1. Introduction

Political participation is a normative, but also a practical foundation of modern democracy. High turnout is therefore often considered as a proxy for democratic quality and legitimacy. However, not all citizens are equally active and levels of electoral turnout vary across time and space. Individual decisions to participate in an election depend on civic skills and knowledge, on personal engagement, and on being recruited by others (see Verba, Schlozman, and Brady 1995). What is more, turnout in elections is influenced by a range of contextual conditions that directly or indirectly affect individual decisions to participate in a given election. Decades of electoral research have shown that institutional procedures and election rules have an effect, as do jurisdiction size, electoral competition, and campaign efforts (see Geys 2006; Cancela and Geys 2016).

Beyond these individual, macro-institutional and contextual conditions, the role of the media in influencing voter turnout has been an additional focus of scholarly attention. Media coverage of politics is widely considered essential to voters' ability to engage in democratic decision-making. But mass media coverage of politics cannot simply be taken for granted - it varies in quantity and quality, across time and space. Indeed, scholars seeking to explain the declining levels of electoral turnout in many Western democracies have pointed to changes in the media environment, leading to an "erosion of knowledge of current affairs traditionally provided by the evening news broadcast and widespread newspaper readership" (Gallego 2008, 27) and thereby to declining turnout levels. While there is an increasing literature exploring media-related effects on electoral turnout, most of it remains focused on voter partici-

pation in national elections. Studies that look at the relationships between the media environment and turnout in local elections are still scarce, focus on small numbers of cases, or measure local media environments in an unsatisfactory way.

The goal of this article is to show that accounting for the local media environment contributes to a better understanding of local elections. To do this, we analyze the relationship between the newspaper market and turnout in local elections in Switzerland. The study shows, indeed, that structural features of the newspaper market within a municipality influence the turnout in elections therein to a substantial degree.

The Swiss context is relevant for the topic under scrutiny both for its specificities, and its generalizeable features. Switzerland's local government system is a rare case of "localized political culture" (Sellers et al. 2013, 426) where the salience of local elections is high and turnout can therefore be assumed as strongly influenced by local context. The Swiss media system belongs to the "democratic corporatist" type (Hallin and Mancini 2004), characterized by high newspaper variety rooted in societal segmentation, widespread newspaper readership, low degrees of commercialization, and an emphasis on monitoring news coverage (Iyengar et al. 2009). Newspapers are crucial elements of the "local media ecosystem" (Ali 2017, 109) in Switzerland, not only because of a strong tradition of political parallelism of the press - i.e. proximity of newspapers to political parties - but also due to the belated liberalization of electronic media in the 1980s (radio) and 1990s (TV) where public broadcasters are still dominant. At the same time, however, local journalism in Switzerland is in crisis: the advent of free dailies (e.g. commuter papers), as well as the rise of the digital media have put local and regional newspaper under pressure (Meier 2014). Such a trend has also been observed in most other developed democracies, where local journalism is in decline, prompting fears of local "news deserts" where people need to rely on the local grapevine to stay informed (Nielsen 2016, 7). This obviously raises concerns for the functioning of (local) democracy, as the ab-

sence of media coverage in local areas is likely to result in deficits of transparency and legitimation (Imhof 2006). An improved understanding of the relationship between local newspaper markets and local elections thus also helps to gauge the potential implications of the ongoing transformation of the local media systems in developed democracies more generally.

2. Political Participation, Information and Media Markets

The effect of the mass media on political participation is evident if we posit that the availability of political information is important for a citizen's decision to participate or not. This is the main argument of the so-called information model of voter turnout (Matsusaka 1995), showing how information leads some citizens to participate in an election and others to abstain. The upshot of the information model is that "even if people believe it is their duty to vote, rational citizens abstain if they feel unable to evaluate the choices. Holding constant the basic inclination to vote, then, variations in turnout can be explained by variations of how informed citizens are" (Matsusaka 1995, 93). While one need not share the utilitarian underpinnings of the information model of voting turnout - which is, indeed, an extension of the rational voter model (see Downs 1957) - it is obviously plausible to consider that citizens who are better informed are more likely to vote. This general insight can easily be combined with the more complex resource model of political participation (Verba, Schlozman, and Brady 1995) in which the combination of individual resources, political interest and mobilization is seen to determine citizens' political participation. Indeed, information can be assumed important to all three factors: when information is readily available, civic skills can play out better, political interest emerges more easily, and mobilization efforts are more effective.

In modern democracies, the mass media play a crucial role in informing citizens about politics and policies, besides direct campaigning by political actors. Exposure to mass media with a lot of political content has been shown to increase citizens' political knowledge (Delli

Carpini, Keeter, and Kennamer 1994) and this, in turn, to increase electoral participation (de Vreese and Boomngaarden 2006). When citizens are provided politically relevant information by the news media, they are more likely to participate politically and vote in elections. Political news, as other media content, can be considered as products crafted by media organizations and sold on a market. The supply of political news in a given jurisdiction is thus likely to be a function of the media market structure. In some regions, citizens might have a broader choice of different news media outlets than in others, or some regions might be better covered by news media reports than others. Hence, the presence of news media or the relevance of political information provided by these news media is likely to vary across electoral districts. And this can be assumed to affect political participation therein, as “news media that present information on political issues of relevance to the voters are likely to increase the level of information among the electorate and, hence, lead to a rising turnout” (Baekgaard et al. 2014, 521).

So far, the relationship between the structure of news media markets and political participation across electoral districts has been investigated rather recently and only few studies are available, especially outside of the US (Hamilton 2015). The findings tend to confirm the assumption that the structure of the news media market influences citizens’ political participation. The causal explanations for this effect generally rest upon the argument of a strong link between the media market structure in a given jurisdiction, and the relevance of the content provided by the media used in this jurisdiction.

On the one hand, this link has been operationalized as the presence and/or readership of media products with a scope that is relevant for a given jurisdiction. A study examining electoral turnout over time in the US state of Kentucky found that the closure of one of the two local newspapers in 2007 had a lasting negative effect on turnout in municipal elections (Schulhofer-Wohl and Garrido 2013). Similar conclusions were drawn by Shaker (2014) in

his study on the effect of the closure of two newspapers in Seattle and Denver, which led to a decrease in civic engagement in these two US metropolitan areas. The importance of locally relevant news for electoral turnout at that level is also confirmed by Oberholzer-Gee and Waldfogel (2009) in their study on television markets in US metropolitan areas, showing that the availability of Spanish-language local television news in a given metropolitan area raises electoral turnout among Hispanics there by more than four percentage points. And in a study on municipal election turnout in Denmark, Baekgaard et al. (2014) find that turnout is higher in municipalities where local newspapers provide locally relevant political information. Voters living in electoral districts with news media that provide information on political issues relevant to this district seem to be better informed and therefore more likely to turn out on election day.

On the other hand, the link between media market structures and locally relevant media content has been operationalized as the *territorial fit* between news media markets and political districts. Schaffner and Sellers (2003) have found that local congressmen are more often mentioned in a given newspaper when the newspaper's market and the congressmen's electoral district overlap, mainly because newspapers will consider congressmen more newsworthy when they represent large shares of their readership. Similarly, in their study on the effect of US local television market size on turnout in national elections, Althaus and Trautmann find a quite straightforward negative effect of territorial misfit: "People living in larger television markets are less likely to vote, especially in midterm elections, even after controlling for a range of factors known to predict turnout" (2008, 844). They explain this finding by the tendency of TV stations in larger markets to give disproportionate attention to higher-level races involving statewide or national offices, and to expose voters much less to lower-ticket races in which they are eligible to vote. Finally, in a study on press coverage of US congressmen in their electoral districts Snyder and Strömberg (2010) find that a high 'congruence' between

newspaper markets and congressional districts results in more press coverage of local congressmen. Congruence (operationalized as the sum of circulation-weighted averages of newspaper market shares in electoral districts) leads to more articles being published about the local member of congress, thereby to better informed voters who participate more often in elections, but also to politicians being more responsive to the interests of their constituency. A good fit between the media market and the territorial boundaries of electoral precincts is thus vital for democratic governance more generally, beyond the mere aspect of electoral turnout.

The extent to which voters are informed on current political affairs can thus be seen to depend on the degree to which the geography of media markets match the territories of political constituencies. Arguably, this finding is particularly relevant for the quality of democracy at the local level, as local journalism is particularly threatened by the wider changes underway in many national media systems (Nielsen 2016). In most established democracies, current trends in the media markets tend to dilute their fit with territorial constituencies. Commercial competition, as well as consolidation of ownership has particularly affected the market for local newspapers, many of which have ceased to exist. Combined with the shift of media users away from newspapers to supra-local television stations or to online news platforms, this development leads to territorial enlargement and up-scaling of media markets. Territorial misfits between media markets and boundaries of local governments is thus likely to result in a de-localization of news, that is: a reduced coverage of locally relevant political issues which, ultimately, will imply a “de-publicization of local affairs” (Imhof 2006, 207) and a disengagement of citizens in local politics.

2.1 Local Elections and the Media Market in Swiss Metropolitan Municipalities

In this study, we look at the relationship between the territorial structures of the newspaper market and electoral turnout in local elections in municipalities located in the six major metropolitan areas in Switzerland. Switzerland is a federalist country and elected representa-

tive institutions exist at all three state levels: the federation, the 26 cantons (the federate states), as well as the roughly 2.300 municipalities. For the analysis of electoral turnout, the Swiss case is significant because electoral turnout is one of the lowest among Western democracies. As elsewhere, turnout in national elections has declined throughout the 20th century, but it went down to record lows in Switzerland. The 1995 national election has seen the lowest turnout ever registered: only 42.2 percent of the eligible citizens cast their ballot. Since then, national election turnout has slightly increased again, but still oscillates around an average of 45 percent - which is roughly 25 percentage points lower than in other developed democracies. Several factors explain these extremely low levels of turnout in Swiss national elections (see Franklin 2004; Lutz and Selb 2007). On the one hand, belated introduction of female suffrage (only as late as 1971) is the cause for above average abstention rates in cohorts of older women (see Senti and Lutz 2008). On the other hand, several features of the Swiss political system reduce the salience of elections. Consensus democracy - of which Switzerland is a prototype (Lijphart 2012) - leads to limited influence of electoral outcomes on the composition of the large coalition government. What is more, due to extensive direct democracy at all three state levels, popular votes on policy issues are frequent and, in comparison to other Western democracies (Bochsler and Kriesi 2013), limit the control of representative institutions over policies.

Local elections, however, are more salient in Switzerland than elsewhere, mainly due to substantial municipal autonomy. Indeed, various comparative typologies (see Sellers and Lidström 2007; Goldsmith and Page 2010) qualify Switzerland's local government system as one where local autonomy is high, both in terms of legal competences and financial resources, and where democratic self-governance of local communities is substantial. Political participation at the local level can thus be viewed as an important instrument of citizen control, and turnout in local elections in Switzerland is often as high as or even higher than turnout in na-

tional elections. Caramani (2004) has found a rather low degree of nationalization in Swiss politics, and Sellers et al. have qualified Switzerland as one of the rare cases of a “localized political culture” (2013, 426).

Nevertheless, the (scarce) longitudinal studies of Swiss local participation show that, in parallel to the trend in national elections, municipal turnout rates has continuously declined since the 1970s (see Kübler 2015, 18). It has pointed to the importance of municipal context in addition to socio-demographic features of the electorate (see Ladner and Millner 1999; Zingg and Benz 2003; Kübler, Scheuss, and Rochat 2013). The ‘size effect’ is largely confirmed for the Swiss case: local electoral turnout decreases with the population size of a municipality. In addition, the voting system was found to play a role, with proportional rule having a generally positive effect on turnout. More recently, research on local elections in urban municipalities found that transformations due to metropolitan growth - new housing as well as high shares of out-commuters - depress turnout in municipal elections. However, as elsewhere (see Cancela and Geys 2016), the existing studies on turnout level in Swiss municipal elections still leave a large proportion of the variance unexplained. And none of them has, as yet, examined the relationships between turnout in local elections and the nature of the media market in Swiss municipalities. By exploring this relationship, this study also aims to improve our understanding of the contextual determinants of electoral turnout more generally.

3. Method and Data

The purpose of the analysis is to assess the extent to which turnout in Swiss municipal elections is related to the territorial structure of the newspaper market. It rests on the assumption that the latter can be taken as a proxy for media content. The accuracy of this assumption has been established in the US context (see Schaffner and Sellers 2003; Snyder and Strömberg 2010), and its plausibility for Switzerland was confirmed in an examination of media content in a selection of German- and French-speaking Swiss newspapers according to

their circulation territory (see Table 5 in the supplementary material). We implement a cross-sectional design focusing on 408 municipalities located in the six major Swiss metropolitan areas (Table 1).¹ They total a population of nearly three million, which corresponds to roughly half of the country's urban population. Of these six metropolitan areas, three are located in the German-speaking region (Zurich, Basel, Lucerne), two in the French-speaking region (Geneva and Lausanne), and one in the Italian-speaking region (Lugano). They thus represent the whole variety of cultural contexts in Switzerland and tap into all three linguistic segments of the Swiss media system.

--- Insert Table 1 about here ---

3.1 Dependent Variable: Turnout in Elections to the Municipal Executive

The variable of interest in this study is the level of citizens' political participation at the municipal level. In Switzerland, there is a variety of institutionalized opportunities for citizens to participate in municipal politics and policy. Switzerland is a highly decentralized federation and municipalities are subject to legislation by the cantons. As a consequence, the political organization of municipalities, including the design of participatory institutions, can vary considerably across cantons and sometimes even across municipalities within cantons. These regional institutional varieties notwithstanding, all Swiss municipalities feature direct election of the executive branch of municipal government, composed of a mayor plus a number of aldermen.² Both majority and proportional rule can be used for the election of the municipal government, depending on cantonal legislation. The municipal executive is the most powerful institution in the Swiss local government system and has a predominant influence on local policy processes. Elections to the municipal executive can thus plausibly be regarded as the most salient instance of local political participation in Switzerland.

We therefore operationalize the dependent variable as the turnout in elections of municipal executives, and use official figures published by the municipalities. Registration of voters is automatic throughout Switzerland, and electoral turnout is therefore measured as the percentage of citizens who cast a vote in a given election. While the official figures can be considered as extremely reliable, accessibility of these figures is a problem as they are not centrally stored. In addition, municipal elections are held in different years across cantons - and sometimes even across municipalities within cantons. Hence, considerable efforts were necessary to compile the data on electoral turnout from cantonal oversight authorities and, in some cantons, directly from the municipalities. We aimed at obtaining turnout data for the most recent municipal elections in the period from 2008 to 2012, in order to take a measure of municipal electoral turnout as close as possible to the 2010 population census.³ All in all, official turnout figures could be obtained for 375 municipalities, corresponding to roughly 92 percent of the total number of municipalities in the six metropolitan areas under scrutiny (Table 3).

3.2 Independent Variables

The general hypothesis explored in this study is that the more citizens in a municipality are exposed to relevant political information provided by newspapers, the higher the turnout in municipal elections in that municipality. However, as Baekgaard et al. (2014) rightly note in their study on Danish municipalities, obtaining valid data on the relevance of news media coverage for local politics would require enormous resources, especially if the number of municipalities under scrutiny is high (such as in our case). Rather than relying on survey data on the perception of media content (as did Baekgaard et al. 2014), we use data on structural aspects of the local newspaper market, which we assume to be related to media content. More particularly, we use two variables: newspaper audience, and territorial congruence.

We use *newspaper audience* in a municipality as a measure for newspaper penetration of a municipality. Indeed, the larger the share of newspaper readers in a municipality's popu-

lation, the larger the proportion of citizens who are exposed to political information contained in these newspapers. Newspaper audience in a municipality is operationalized as the share of newspaper readers in the municipal population. However, the proportion of newspaper readers relative to the population in a municipality cannot, as such, tell us anything about the relevance of the political information contained in the newspapers that are read in this municipality. An additional variable is needed to account for local relevance of newspaper content. The identification of this variable is based on the assumption that, due to limited space, news media organizations have to be highly selective in the content they publish. The selection of topics and events reported upon follows a number of criteria - known as “media logic” (Altheide and Snow 1979). Basically, media organizations seek to publish news which they assume are of interest to their readers, not least with the goal to maximize their audience and thus their commercial benefits. Moreover, thanks to market research, news organizations can be considered rather well informed about the market which their newspaper taps into.

With this as background, we posit that *congruence of the local newspaper market with municipal territories* increases a given municipality’s importance for news organizations whose outlets are read in this municipality, and thereby increases the likelihood of localized news coverage. Drawing on Snyder and Strömberg (2010), we hypothesize that in municipalities where congruence of the newspaper market is high, electoral turnout is also higher. Indeed, newspapers in congruent markets can be assumed to contain more locally relevant news since their incentive to write about local politics is affected by its audience in that municipality, which leads to citizens being better informed about local politics and therefore increases their likeliness to vote in local elections.

For the operationalization of congruence, we follow Snyder and Strömberg (2010), who use the term to measure the importance of a given electoral district for newspapers which are read therein. The starting point for the measurement of congruence is the reader share of

newspapers read in a given territory. It is assumed that the higher this reader share, the more a newspaper's content will be localized, because journalists and editors will seek to cover the news which is considered relevant by the readers living in that territory. Hence, the reader share of newspaper 'p' in metropolitan area 'M' is calculated as the share of its overall readers 'a' living in that metropolitan area:

$$reader\ share_{pM} = \frac{a_{pM}}{a_p}$$

and measures the importance of a given metropolitan area for that newspaper.⁴

In order to gauge the importance of a municipality for a given newspaper, market share is used to account for the proportion of the readership of newspaper 'p' in municipality 'm', in which a total of 'P' newspapers are read:

$$market\ share_{pm} = \frac{x_{pm}}{\sum_{p=1}^P x_{pm}}$$

The reader share of newspaper 'p' in metropolitan area 'M', weighted by its market share in municipality 'm', represents the importance of this metropolitan municipality for newspaper 'p'. Consequently, the sum of the values for all newspapers 'P' read in a municipality 'm' located within metropolitan area 'M' represents the congruence of the overall newspaper market in this municipality:

$$congruence_m = \sum_{p=1}^P reader\ share_{pM} \times market\ share_{pm}$$

The maximum value of the congruence measure is 1, representing full congruence: all readers of all newspapers that are read in a municipality also live in this municipality. The lower the share of readers of newspapers read in a municipality the closer the congruence value is to 0 which is the minimum value (no congruence). The congruence value therefore measures the degree to which the newspaper market within a municipality is localized.

The core hypothesis tested in this study is that congruence of the municipal newspaper market has a positive impact on electoral turnout. Congruence is taken as a proxy for localized newspaper content, i.e. extensive coverage of municipal news, which will result in better information on local affairs and, ultimately, in higher rates of electoral participation by newspaper readers. However, we need to acknowledge the fact that the effect of municipal newspaper market congruence on electoral turnout is mediated by the size of this newspaper market. Logically, compared to non-readers, newspaper readers are more exposed to newspaper content. In municipalities with high proportions of newspaper readers, the effect of localized news coverage will most likely be stronger. Therefore, an interaction term between newspaper audience in a municipality and newspaper market congruence will be used to postulate that when citizens of a municipality read a given number of stories about their town, it makes a difference whether they read them in more or fewer newspapers.

Data on the local newspaper markets in the municipalities under scrutiny stem from systematically collected circulation numbers, compiled from the 2010 study on the readership of newspapers in Switzerland (WEMF 2010).⁵ Data was available for 384 out of the 408 municipalities under scrutiny (Table 2).

3.3 Control Variables

Drawing on the insights from existing work on the covariates of turnout in subnational elections in general (Cancela and Geys 2016) and on municipal elections in Switzerland in particular (Kübler, Scheuss, and Rochat 2013), a number of control variables known to influence electoral turnout at the municipal level will also be considered. More precisely, the (logged) population size of a municipality will be included, as previous studies have shown a significant negative impact of population size on local electoral turnout. Mean taxable income of residents in a municipality will also be considered, as a measure for socio-economic status known to influence the likeliness to vote more generally.⁶ The proportion of older residents

(i.e. above 65 years) will be accounted for, as political participation in Switzerland is known to increase with age. In terms of institutional differences between municipalities, we will control for the electoral rule applied in municipal elections; proportional rule - as opposed to majority rule - was indeed found to have a positive impact on municipal election turnout (Ladner and Millner 1999). Finally, culture will need to be accounted for, especially the distinctive context of the Italian speaking part of the country, where electoral turnout at the local level is higher than elsewhere due to widespread party clientelism (Mazzoleni 1999). Data on these control variables were obtained from the 2010 population census for all municipalities.

4. Findings

4.1 Socio-Demographic Aspects and Municipal Media Market

As can be seen from Table 1, the six metropolitan areas under scrutiny are quite typical for the highly fragmented Swiss local government system more generally (Hoffmann-Martinot and Sellers 2005). Metropolitan areas cover a large number of different municipal jurisdictions, and the average size of municipalities is rather small. There is some variation between the metropolitan areas under scrutiny: municipalities are particularly small in the Lugano metropolitan area, located in the Italian speaking part. While the proportion of older residents seems to be rather constant, residents' wealth varies quite substantially both within and across metropolitan areas, as is shown by the figures of the median income equivalent at the municipal level.

Turning to the structures of the municipal newspaper markets, Table 2 shows that these differ substantially between the metropolitan areas under scrutiny. Newspaper audience is high in Basel (where the value of 1.05 suggests that the average resident reads more than one newspaper) and Lucerne, and low in Lugano, Lausanne and Geneva, with Zurich somewhere in between. Looking at the congruence of the municipal newspaper market, we also find sig-

nificant differences between metropolitan areas. Territorial congruence of municipal newspaper markets is highest in Basel, followed by Geneva and Zurich, Lucerne and Lausanne.

--- insert Table 2 about here ---

4.2 Explaining Turnout Levels in Municipal Elections

Considering the low levels of electoral turnout in Swiss national elections, the overall average level of turnout in municipal elections in the six metropolitan areas (42.6 percent) is relatively high (Table 3). This overall figure, however, hides substantial variation between the metropolitan areas, as well as between the municipalities within these. On the one hand, Lugano clearly stands out with the highest levels of municipal turnout, which can be explained with the specific cultural context of Italian-speaking Switzerland, with the prevalence of proportional rule for municipal elections, as well as with the relatively small size of the municipalities in the Lugano metropolitan area. Zurich and Lucerne, on the other hand, stand out with very low levels of municipal election turnout. The remaining three metropolitan areas are located somewhere in between these two extremes.

--- insert Table 3 about here ---

In order to assess the effects of newspaper market structure on municipal election turnout, multivariate regression analysis was used. Three regression models were estimated (Table 4).⁷ In model 1, only structural and socio-demographic predictors are included. The results show the expected effects: high levels of electoral turnout are associated with the location of a municipality in the Italian-speaking part of the country (which captures effects of both culture and prevalence of proportional rule), with small municipal population, with high

levels of resident wealth, as well as with large proportions of older residents found in a municipality. The adjusted R^2 measure shows that this first model explains 46 percent of the observed variance - which is quite substantial.

The second model, besides the control dummy for location of a municipality in the Italian speaking part of the country, only uses the two independent variables related to the municipal newspaper market. Two variants of this model were estimated: one without, and one with the interaction term. The results show that it is important to take the interaction term between audience and congruence into account. The results show the expected effects. First, for the size of the local media market: the larger the newspaper audience in a municipality, the higher the level of turnout in municipal elections there. Second, we also see the expected positive association of congruence used as a proxy to measure local relevance of media content. In addition, the interaction term is significant, thereby corroborating the assumption that the effects of local newspaper market structure on political participation are mediated by the size of this market relative to the municipal population. However, the interaction term is negative (we will come back to this unexpected result below). The proportion of the variance explained by this ‘media market-only’ model is also quite remarkable.

--- insert Table 4 about here ---

Finally, the third model uses the independent variables of interest together with the control variables. It shows robust effects of the two newspaper market variables, even if structural and socio-demographic determinants of electoral turnout are taken into account. Both newspaper audience and congruence of the newspaper market in a municipality have significant positive effects on turnout in municipal elections. The significance of the interaction term shows that the influence of newspaper congruence on electoral turnout is moderated by news-

paper audience in a municipality. However, the negative interaction term is counter-intuitive: our theoretical expectation was that the positive influence of congruence on turnout would be particularly strong in municipalities with large newspaper audiences. A further exploration of this result suggests that, while the influence of congruence on turnout is indeed moderated by audience, this moderating effect differs between municipalities with small or large newspaper audience (see Figure 1, as well as Figure 2 in the supplementary material): once audience reaches 1.0, higher audience actually weakens the positive influence of congruence on turnout. This is not implausible. Indeed such high values of newspaper audience mean that many people in a municipality read several newspapers, most likely one with localized news and others with non-localized news. Hence, very large newspaper audiences might also denote less localized interests by readers. Even though there is a better fit between municipal territories and media market (congruence), the supra-local focus of readers' interests reduces the positive influence of congruence on electoral participation.

--- insert Figure 1 about here ---

Robustness checks (see supplementary material) show no major problems with the models that were estimated in Table 4. A comparison of regression statistics between these models shows that increase in the proportion of the observed variance from model 1 to model 3 is rather small, and might suggest that newspaper market structure, after all, does not add much to the understanding of municipal election turnout. However, an exploration of the substantive importance of the statistically significant coefficients (see Figure 3 in the supplementary material) suggests that the influence of newspaper market structure on turnout in local elections is quite large. Compared to the control variables, both newspaper audience and congruence have a sizeable influence. For instance, their effect on turnout is more important than

socio-economic status or the proportion of older residents in a municipality. This further buttresses our argument that the structure of the newspaper market in a municipality should be taken into account in future research on local election turnout.

5. Discussion

Turnout in Swiss municipal elections varies considerably across different metropolitan regions of the country, as well as within these. While some of this variation can be explained by structural conditions (notably municipal size), as well as by the socio-demographic composition of the municipal electorate, this study shows that the municipal newspaper market also has a significant and sizeable effect on turnout levels in municipal elections. The larger the share of newspaper readers within a municipality, and the more congruent the newspaper market therein, the higher is the turnout in municipal elections. Newspaper penetration, but also localization of the newspaper market thus foster political participation at the local level.

Beyond the Swiss context, the results of this study corroborate the findings of an increasing strand of literature that exposure to relevant information does indeed influence citizens' probability to vote and, thus, buttress the information model of voting. Our results emphasize the importance of the role of the mass media and their market structures for the analysis of political participation. Media markets vary across time and space and can be assumed to influence political participation in a given territorial context in distinctive ways. Studying these influences can benefit our understanding of political participation more generally. Our findings suggest that the concept of newspaper congruence developed by Snyder and Strömberg (2010) is a useful tool to examine the link between the newspaper market and political participation at the local level. Combined with audience as a measure of newspaper penetration, newspaper congruence allows capturing core structural aspects of the local media environment in a rather straightforward way. This is important, as alternative measures for the

local media environment - such as data on newspaper content or newspaper use - would require enormous resources to collect.

Our study was one of the first to investigate the effect of newspaper markets on local electoral turnout with a large N cross-sectional design. The results show that variations in local newspaper markets are important to explain the differences in levels of turnout across municipalities in Swiss metropolitan areas. This should be acknowledged in future research on local elections in Switzerland, but also more generally. Indeed, the media environment appears as an important contextual factor influencing local electoral turnout that is, as yet, unacknowledged by existing research (see Cancela and Geys 2016). The topic merits further attention, as it points to interrelatedness of the decline in local electoral turnout in many established democracies and the changes in the media systems in the same period. The findings of this study suggest that current transformations of newspaper markets bear further threats to political participation at the local level. Concentration and consolidation is going on and many regional and local newspapers have disappeared. This is bad news for local news. Newspapers become fewer, their territorial scope increases and there will thus be less room for locally relevant news. As the territorial scope of news outlets is likely to be scaled up in parallel to the expansion of their range, the congruence of media markets with political constituencies will decrease in this process - and, in turn, lead to further decline of political participation, as citizens increasingly lack the information necessary to meaningful civic engagement.

Given the “normative importance of local news for the democratic health of a country” (Ali 2017, 126), there is thus an urgent need to reflect upon how this trend of a declining congruence of news markets with jurisdiction territories could be stopped or reverted. Many have hoped that digital technologies might step into the void left by the decline of local newspapers, for instance in the form of “hyperlocal media” (Metzgar, Kurpius, and Rowley 2011), i.e. online original-news-reporting organizations pertaining to geographically defined com-

munities, that would eventually help to re-establish territorial congruence of news markets. For the time being, however, these hopes have not been fulfilled, mainly due to the difficulties of developing profitable news businesses in the digital market. It thus seems increasingly necessary to examine the role of non-commercial, or publicly funded news provision at the local level (e.g. through nonprofit organizations, parties, independent groups but also local authorities)(Ali 2017) in order to help substitute what local commercial media once provided.

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Notes

¹ The selection of 408 metropolitan municipalities (roughly 17 percent of the overall number of municipalities in Switzerland) was operated mainly to reduce data collection efforts for the dependent variable (see below).

² In one canton - Neuchâtel - the municipalities are free to choose between direct election of the government by the citizens, or indirect election of the government by the municipal parliament (which is itself directly elected). However, none of the municipalities under scrutiny in this study is located in the canton of Neuchâtel.

³ Note that there were no cases in which municipal elections were held at the same day as national elections, which could have resulted in an increased turnout for municipal elections as well.

⁴ All municipalities considered in this study are located within one of the six metropolitan areas. For our calculation of congruence we account for a metropolitan area's overall importance for a newspaper because, for example, even if there are many readers of newspaper x in one municipality m, that newspaper might not focus on the respective local politics if its main reader share lies in another metropolitan area. However, if others or even adjacent municipalities within the same metropolitan area represent a sizeable share of the overall readership of newspaper x, it is more likely that newspaper x also focuses on news that are locally relevant to municipality m.

⁵ Circulation figures of newspapers are collected by media market studies every year in Switzerland. These studies use large representative samples of the resident population aged 14 and over, and implement a mixed-method design (CATI, online and paper questionnaires) to collect data on media use and related topics. Data on readership of newspapers includes not only printed editions, but also e-papers and online editions of each newspaper.

⁶ Unfortunately, due to a change of method implemented for the Swiss population census in 2010, data for education levels - known to influence interest in politics and thereby electoral turnout - is no longer available at the municipal level. However, given the strong impact of education on income in Switzerland (see Lévy et al. 1997), income is not only a measure for socio-economic status, but also a proxy for level of education.

⁷ Separate tests showed that the effect of proportional rule is explained away by the dummy controlling for location in the Italian-speaking region of the country. Indeed, most of the municipalities in which proportional rule is used for municipal elections are located in the Lugano metropolitan area, which is itself located in the Italian-speaking region of the country. Proportional rule was thus dropped from all the models. The variable 'Italian-speaking' captures effects of both culture and electoral rule.

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7. Tables and figures

Table 1: Socio-demographic structure of metropolitan municipalities (data for 2010)

Metropoli- tan area ^a	Population	Munici- palities	Population of municipalities		Percent over 65 years		Median eq. income ^b (in 1,000 CHF)	
Name	Overall	Overall	Mean	s.d.	Mean	s.d.	Mean	s.d.
Zurich	1,181,062	130	9,085	32,559	14	3.2	45.2	6.0
Geneva*	527,764	74	7,131	22,247	13	2.9	55.1	9.0
Basel*	501,285	74	6,774	19,606	16	3.2	43.7	4.6
Lausanne	332,681	67	4,965	15,662	13	3.3	46.2	5.7
Lucerne	209,224	16	13,076	18,947	13	4.7	42.3	4.2
Lugano	130,588	47	2,778	8,033	17	2.6	37.2	4.2
Overall	2,882,604	408	7,065	23,656	14	3.5	45.9	7.9

^a excluding municipalities located in neighbouring countries of cross-border metropolitan areas.

^b equivalent income takes household size into account and makes incomes of different households comparable.

Source: Swiss Statistical Office, 2010 population census data; Swiss Federal Finance Administration

Table 2: Newspaper markets in Swiss metropolitan municipalities (data for 2010)

Metropoli- tan area	Municipali- ties	Munici- palities with data	Newspaper audience		Congruence of news- paper market	
Name	Overall	N	Mean	s.d.	Mean	s.d.
Zurich	130	126	0.62	0.24	0.55	0.16
Geneva	74	68	0.47	0.16	0.60	0.12
Basel	74	73	1.05	0.34	0.71	0.09
Lausanne	67	59	0.41	0.20	0.33	0.05
Lucerne	16	15	0.93	0.23	0.47	0.11
Lugano	47	43	0.37	0.12	0.42	0.06
Overall	408	384	0.63	0.33	0.54	0.16

Source: WEMF (2010).

Table 3: Turnout in municipal elections (election in 2010 or near)

Metropoli- tan area	Municipalities (overall)	Munic. with data	Munic. with PR	Electoral turnout (voters in percent of citizens)			
Name	N	N	Percent	Mean	Min	Max	s.d.
Zurich	130	124	0	37.1	19.5	71.2	9.3
Geneva	74	72	0	46.4	30.3	66.0	8.2
Basel	74	67	27	41.7	21.6	74.6	9.6
Lausanne	67	61	0	41.8	22.9	63.9	9.1
Lucerne	16	15	0	38.9	23.2	58.1	8.5
Lugano	47	36	100	58.9	44.4	71.3	6.7
Overall	408	375	16	42.6	19.5	74.6	10.8

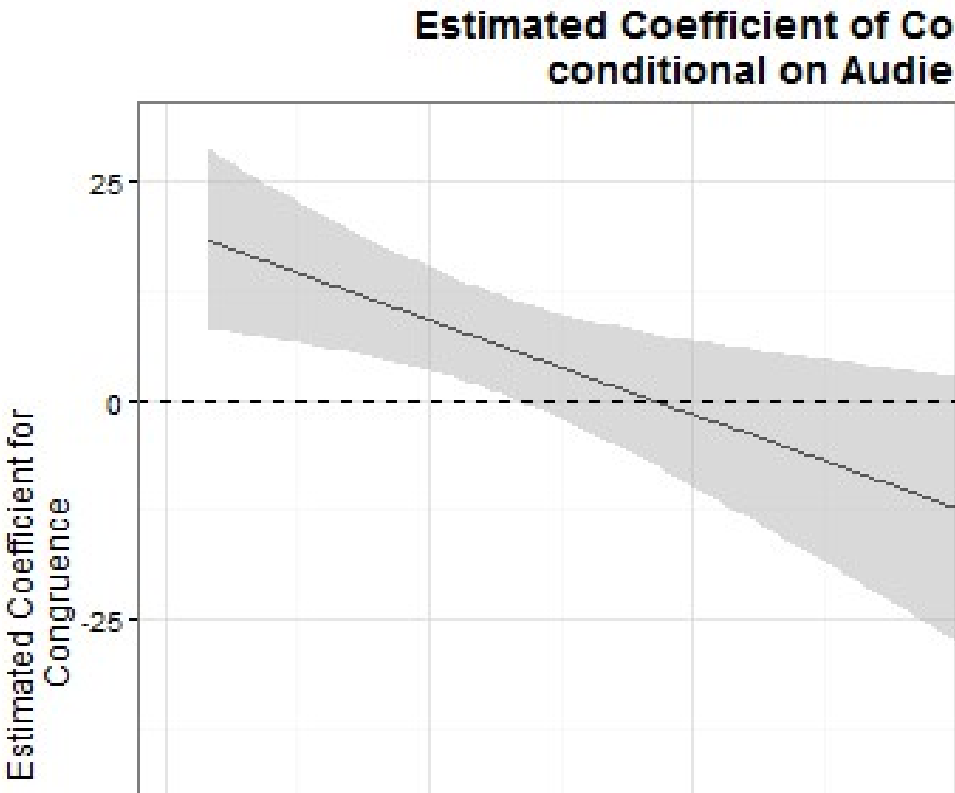
Source: cantonal oversight authorities, municipalities

Table 4: Predictors of turnout in municipal elections (OLS regression; unstandardized coefficients, standard errors in parentheses)

	Model 1 Socio-demo	Model 2 Newspaper market		Model 3 Full
		w/o interaction term	With interac- tion term	
<i>Constant</i>	51.869*** (4.574)	40.466*** (1.787)	32.165*** (3.782)	42.329*** (5.369)
Italian-speaking (dummy)	16.846*** (1.648)	18.507*** (1.760)	19.006*** (1.759)	16.620*** (1.801)
Municipal population (logged)	-3.788*** (0.392)			-3.762*** (0.408)
Median equivalent income	0.291*** (0.0058)			0.253*** (0.0061)
Proportion of residents over 65	0.421** (0.127)			0.553*** (0.140)
Newspaper audience		-1.784 (1.752)	12.693* (6.094)	11.769* (5.093)
Newspaper congruence		2.477 (3.315)	16.579* (6.572)	18.982*** (5.635)
Interaction term (<i>audience * congruence</i>)			-23.234* (9.373)	-23.369** (7.933)
Adjusted R2	0.473	0.263	0.268	0.491
Number of observations	374	350	350	350

Levels of significance $p < 0.05$, ** $p < 0.01$, *** $p < 0.001$

Figure 1: Estimated coefficient of newspaper congruence conditional on newspaper audience (predicted probabilities)



8. Supplementary Material (Online Appendix)

8.1 Territories of newspaper markets and news content

The analysis presented in this article aims to assess the importance of local news on turnout in local elections. Given the large sample of over 400 municipalities covered in the study, systematic content-coding of news sources in these municipalities was unfeasible. This is why we use the concept of congruence of the local newspaper market with municipal territories as a proxy for localized media content. The assumption is that the likeliness of a news organization to cover local affairs in a given territory is higher when this territory represents an important proportion in the overall market share of this news organization.

In order to buttress the plausibility of this assumption, we conducted a content analysis on a selection of newspapers published in the two metropolitan areas of Zurich (German-speaking) and Lausanne (French-speaking). Newspapers selected include a variety of newspaper types (quality, forum, tabloid, free dailies) and market territories (metropolitan vs. supra-metropolitan). Using the database compiled by fög (2012), articles published in a randomly selected week in the year 2011 and reporting an event with a territorial reference were systematically coded for their territorial scope, i.e. whether the events reported were relevant for the metropolitan area or not. A further distinction was made between politics-related events from other events (related to economy, culture, sports, human interest). Results of this analysis are reported in Table 5.

Table 5: Territorial scope of events (all events and political events) covered by selected newspapers in the two metropolitan areas of Zurich and Lausanne (in all articles published 18. - 26.9.2011)

Newspapers	Type	Market	Articles reporting events within metro area (in percent of all articles)	Articles reporting political events within metro area (in percent of articles on political events)	Overall number of articles (=100%)
<i>Zurich</i>					
Neue Zürcher Zeitung	Quality	Supra-metro	15%	17%	1009
Blick	Tabloid	Supra-metro	3%	0%	484
SonntagsBlick	Tabloid weekend	Supra-metro	3%	0%	212
NZZ am Sonntag	Quality weekend	Supra-metro	5%	5%	390
SonntagsZeitung	Forum weekend	Supra-metro	5%	0%	332
Tages-Anzeiger	Forum	Metro area	26%	26%	764
20minuten	Free	Metro area	13%	13%	519
<i>Lausanne</i>					
Le Temps	Quality	Supra-metro	8%	7%	615
Le Matin	Tabloid	Supra-metro	6%	7%	579
Le Matin Dimanche	tabloid-weekend	Supra-metro	5%	7%	332
24heures	Forum	Metro area	40%	37%	806
20minutes	Free	Metro area	12%	19%	563
Overall			14%	16%	6605

Source: fög (2012), own calculations

The results show, first, that newspapers with a supra-metropolitan readership generally report less on events within the metropolitan area, whereas newspapers with readership concentrated within a metropolitan area also report more frequently on events within this area. Second, it also appears that the link between the readership territory and the territorial scope of news coverage is particularly strong with tabloid and weekend newspapers - which appear

to be more de-localized than quality or forum newspapers. These findings thus buttress our assumption about the relationship between the territorial structure of the media market and media content: newspapers with a localized readership are more likely to produce localized news.

8.2 Robustness Checks

Several measures were taken to assess and improve the robustness of the regression models estimated in the analysis. Checking preliminary models, we assessed Cook's distance for *influential outliers*. One data point (Wollerau SZ) was identified as such and subsequently excluded in a conservative move.

In order to account for unmeasured factors at the level of the metropolitan area, a model with metropolitan area fixed effects was estimated (Table 6). As all the Italian-speaking municipalities are located in the Lugano metropolitan area, the latter was taken as the reference category. In all the fixed effect models, significance and direction of coefficients are the same than the ones reported in the main text - denoting their robustness.

Table 6: Predictors of turnout in municipal elections with metropolitan area fixed effects
(OLS regression: unstandardized coefficients, standard errors in parenthesis)

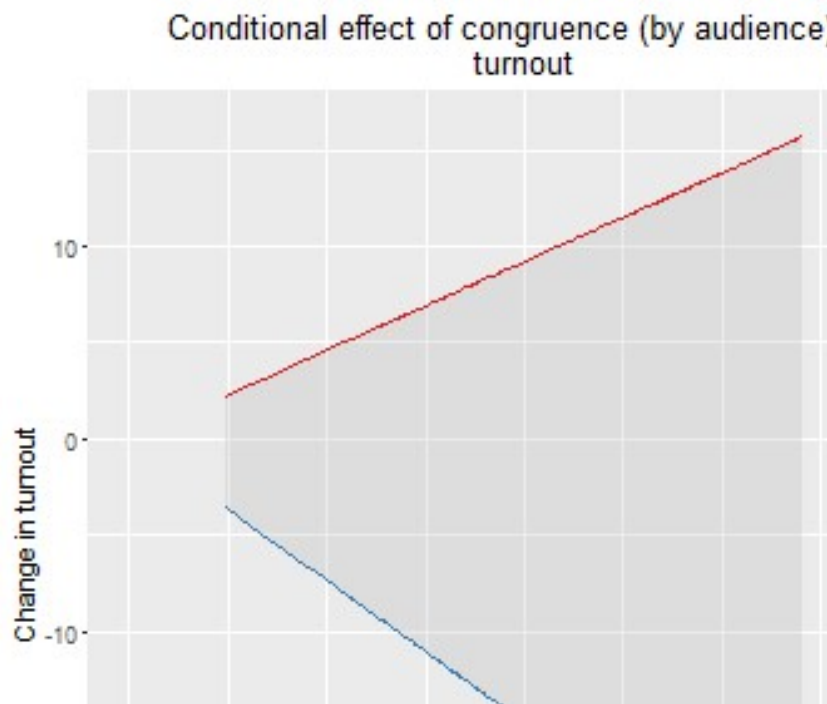
	Model 1 Socio-dem.	Model 2 Newspaper market	Model 3 Full model
<i>Constant</i>	72.092*** (4.402)	46.796*** (4.076)	58.177*** (3.31)
Zurich	-17.421*** (1.828)	-23.498*** (1.855)	-18.565*** (1.961)
Geneva	-11.971*** (2.269)	-14.362*** (1.980)	-13.121*** (2.344)
Basel	-15.580*** (1.726)	-16.905*** (2.427)	-14.982*** (2.214)
Lausanne	-15.686*** (1.926)	-17.715*** (1.914)	-15.199*** (1.971)
Lucerne	-13.744*** (2.616)	-23.411*** (3.028)	-15.931*** (2.906)
Municipal population (logged)	-3.825*** (0.410)		-3.538*** (0.425)
Median equivalent income	0.173* (0.070)		0.166* (0.071)
Proportion of residents over 65	0.497*** (0.139)		0.570*** (0.143)
Newspaper audience		24.082*** (6.363)	16.601** (5.618)
Newspaper congruence		22.699** (7.417)	22.550** (6.516)
Interaction term (<i>audience * congruence</i>)		-39.263*** (9.848)	-31.031*** (8.666)
Adjusted R2	0.491	0.366	0.515
Number of observations	374	350	350

8.3 Exploration of the interaction term

Predicted probabilities were plotted in order to clarify the effects of the interaction term used in the regression models. Figure 1 in the main text plots the effects of newspaper con-

gruence on the dependent variable (i.e. turnout in municipal elections), conditional on newspaper audience. It shows a negative relationship between audience and congruence, meaning that, where newspaper audience is lower, the positive influence of congruence on turnout is higher and vice versa. This differential effect of congruence in municipalities with low or high turnout is further explored in Figure 2 which shows the effects of congruence on election turnout at the upper and lower bounds of audience (all remaining predictors were set to zero). It shows that the effect of newspaper congruence on electoral turnout depends on the newspaper audience. At the lower bound of audience (red line), an increasing value of congruence results in a positive change in turnout. At the upper bound of audience (blue line), an increasing value of congruence results in a negative change in turnout.

Figure 2: Conditional effect of congruence (by audience) on turnout



These further explorations of the interaction term used in the regression models thus make clear that, while there is an overall positive effect of newspaper congruence and news-

paper audience on turnout in municipal election, this effect is higher in situations with high congruence and low audience, respectively situations with high audience and low congruence. This suggests that newspaper congruence and newspaper audience are two aspects of the municipal media market that, as their values increase, become increasingly independent from each other in their influence on electoral turnout.

8.4 Substantive importance of effects

In order to explore the substantive significance of the findings, we estimated regression models with standardized coefficients. Figure 3 visualizes the effect size of the statistically significant coefficients identified in model 3.

Figure 3: Plots of predictors for municipal election turnout (plots for standardized OLS regression coefficients and 95% confidence intervals, model 3)

